

REMARKS

Examiner Shaheda A.Abdin is thanked for the thorough examination and search of the subject Patent Application.

Claims 1 and 23 have been amended.

Reconsideration of the rejection of claims 1-2, 4-7, 9-10, 16-17, and 19-23 under 35 U.S.C. 102(e) as being anticipated by Lee (U.S. Pub. No. 2003/0222839 A1), hereinafter Lee, is requested, based on following remarks:

The amended Claim 1 of the claimed invention discloses:

1. (currently amended) A system to adjust colors in any kind of electronic display comprising:
 - a color screen used as a display using primary colors of a color space;
 - a system processor sending downloading display data to a display driver circuit; and
 - a display driver circuit comprising:
 - a processor interface logic providing the interface between said system processor and said display driver circuit;
 - a display adjust circuit adjusting the display data received from said system processor via said processor interface logic and writing a modified display data into a display RAM wherein said adjustment is performed for each color by linearly scaling by a programmable amount according equations by a simple operations of color adjust registers, wherein said amount corresponds to: **adjustment = $\text{color}_{\text{unadjusted}}/2^n$** , wherein n is a parameter set for each primary color;

said one or more color adjust registers;
 the display RAM for storing the adjusted display data,
 and
 a screen driver controlling said screen and sending said
 adjusted display data to said screen.

Applicant respectfully disagrees that Lee discloses:

a display adjust circuit adjusting the display data received from
 said system processor via said processor interface logic and writing a
 modified display data into a display RAM wherein said adjustment is
 performed for each color by linearly scaling by a programmable
 amount according equations by a simple operations of color adjust
 registers, wherein said amount corresponds to: **adjustment =**
color_{unadjusted}/2ⁿ, wherein n is a parameter set for each primary
 color; as the claimed invention does in claim 1

Lee discloses (paragraph 77) a significantly different equation for adjustment
 than claimed in claim 1 of the claimed invention:

"[0077] As shown in FIG. 7, desired ACC data for G source image data
 G.sub.8bit has no difference with G source image data, and the
 shapes of the respective curves showing differences between desired
 ACC data and source image data for R and G image data R.sub.8bit
 and G.sub.8bit become different with respect to the 160th gray. In
 consideration of this aspect, the respective differences .DELTA.R and
 .DELTA.B of R and B source image data R.sub.8bit and B.sub.8bit
 and ACC data R.sub.ACC and B.sub.ACC are approximately
 expressed by followings equations: $5R = 6 - 6 \cdot \text{times.} (160 - R \text{ 8 bit})$
 160 if $R \text{ 8 bit} < 160$, and $6 - 6 \cdot \text{times.} (R \text{ 8 bit} - 160) / 4 (255 - 160)$
 4 if $R \text{ 8 bit} \geq 160$. Equation 1 $B = -6 + 6 \cdot \text{times.} (160 - B \text{ 8 bit}) / 160$ if B
 $8 \text{ bit} < 160$, and $-6 + 6 \cdot \text{times.} (B \text{ 8 bit} - 160) / 4 (255 - 160) / 4$ if B
 $8 \text{ bit} \geq 160$. Equation 2".

Furthermore Lee discloses his method (paragraph 80):

[0080] If the R image data R.sub.8bit is larger than the boundary value (160),
subtraction of the boundary value (160) from the R image data
R.sub.8bit is performed (S502). Thereafter, multiplication of the
result (R.sub.8bit-160) of the subtraction by 1/(255-160) is

performed by multiplying (R.sub.8bit-160) by 11 and rounding lower tenth bit (S503) since $1/(255-160)$ is approximately equal to $11/1024$. Next, the operations for obtaining the square and the fourth power of $((R.sub.8bit-160).times.11/1024)$ are sequentially performed by using pipelines in ASIC (S504 and S505). **Multiplying the result $((R.sub.8bit-160).times.11/1024).sup.4$ of the operations by six (S506) and subtracting the result $(6.times.((R.sub.8bit-160).times.11/1024).sup.-4)$ from six results in AR given by Equation 1 (S507).**

Lee does not disclose a simple adjustment operation wherein the amount of adjustment is **adjustment = color_{unadjusted}/2ⁿ** as the claimed invention does. The difference of equations used for adjustment is technically very relevant because the division disclosed by the claimed invention can be performed very fast by a "shift register" operation Therefore Applicant believes that claim 1 has not been anticipated by Lee.

The same arguments apply for claim 23 as outlined above for claim 1. The amended claim 23 discloses:

23. (currently amended) A method to adjust colors in any kind of electronic display comprising:

providing a display screen, a system processor, and a display driver circuit comprising a processor interface logic, a display adjust circuit, one or more color adjust registers, a display RAM and a screen driver circuit;

define adjustment data for each primary color used by said display screen to adjust said colors according to the properties of said screen;

store said adjustment data for each primary color in one or more registers providing one or more bits for each primary color;

define a word structure to operate the unadjusted display data and to store the adjusted display data in a display RAM wherein for each primary color a defined number of bits is assigned;
implement an algorithm to adjust each of the primary colors, used by said screen, in said display adjust circuit using a hardware description language;
download display data from system processor into display adjust circuit;
adjust display data in display adjust circuit according to algorithm implemented earlier, **wherein said amount corresponds to: $\text{adjustment} = \text{color}_{\text{unadjusted}}/2^n$** , wherein n is a parameter set for each primary color and according adjustment data defined and stored earlier and write adjusted display data into display RAM; and
forward adjusted display data from the display RAM to the display screen by the screen driver circuit.

Therefore Applicant believes that claim 23 has not been anticipated by Lee.

Claims **2, 4-7, 9-10, 16-17, and 19-22** are dependent claims upon their base claim **1**, which is believed to be patentable according to the arguments outlined above.

Reconsideration of the rejection of claims 3 and 25 under 35 U.S.C. 103(a) as being unpatentable over Lee (U.S. Pub. No. 2003/0222839 A1) in view of Kue et al. (US Pub. No.:2003/0234756 A1) is requested, based on following remarks:

Claims **3** and **25** are dependent claims upon their base claim **1**, and respectively upon independent claim **23**, which are believed to be patentable according to the arguments outlined above.

Reconsideration of the rejection of claim 8 under 35 U.S.C. 103(a) as being unpatentable over Lee (U.S. Pub. No. 2003/0222839 A1) in view of Bergstrom (US Pat. No.:6,801,213) is requested, based on following remarks:

Claim **8** is a dependent claim upon base claim **1** which is believed to be patentable according to the arguments above.

Reconsideration of the rejection of claims 11-12, and 32-36 under 35 U.S.C. 103(a) as being unpatentable over Lee (U.S. Pub. No. 2003/0222839 A1) in view of Cowlshaw (US Pat. No.:4,725,828) is requested, based on following remarks:

Claims **11-12**, and **32-36** are dependent claims upon base claim **1** and respectively upon base claim **23**, which are believed to be patentable according to the arguments above.

Reconsideration of the rejection of claims 13-15, and 26-28 under 35 U.S.C. 103(a) as being unpatentable over Lee (U.S. Pub. No. 2003/0222839 A1) in view of Reinert (US Pat. No.:5,488,390) is requested, based on following remarks:

Claims **13-15**, and **26-28** are dependent claims upon base claim **1** and respectively upon base claim **23**, which are believed to be patentable according to the arguments above.

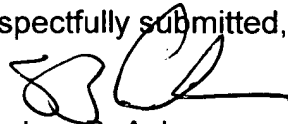
Reconsideration of the rejection of claims 18, and 29-31 under 35 U.S.C. 103(a) as being unpatentable over Lee (U.S. Pub. No. 2003/0222839 A1) in view of Challier (US Pat. No.:6,199,031 is requested, based on following remarks:

Claims **18** and **29-31** are dependent claims upon base claim **1** and respectively of base claim **23**, which are believed to be patentable according to the arguments above.

All Claims are believed to be in condition for Allowance, and that is so requested.

It is requested that should the Examiner not find that the Claims are now Allowable that the Examiner call the undersigned at 845-452-5863 to overcome any problems preventing allowance.

Respectfully submitted,



Stephen B. Ackerman, Reg. No. 37,761